

**KHADERIA HIGHER SECONDARY SCHOOL, VANIYAMBADI.****MODEL COMMON QUARTERLY EXAM (2) – SEP 2024****CLASS: 12-B****BIOLOGY****MAXIMUM MARKS: 70****BIO BOTANY (35 Marks)****TIME: 3 HRS.****I. CHOOSE THE CORRECT ANSWER.****8 X 1=8**

- 1) An eminent Indian embryologist is  
a) S.R. Kashyap      b) P. Maheswari      c) M.S.Swaminathan      d) K.C. Mehta
- 2) Arrange the layers of anther wall from locus to periphery  
a) Epidermis, middle layers, tapetum, endothecium  
b) Tapetum, middle layers, epidermis, endothecium  
c) Endothecium, epidermis, middle layers, tapetum  
d) Tapetum, middle layers, endothecium, epidermis
- 3) Which one of the following is an example of polygenic inheritance?  
a) Flower colour in *Mirabilis jalapa*      b) Production of male honey bee  
c) Pod shape in garden pea      d) Skin colour in humans
- 4) "Gametes are never hybrid" This is a statement of  
a) Law of dominance      b) Law of independent assortment  
c) Law of segregation      d) Law of random fertilization
- 5) The term mutation was introduced by  
a) Hugo de Vries      b) Muller      c) M.S. Swaminathan      d) W.S. Sutton
- 6) In which of the techniques Ethidium Bromide is used  
a) Southern Blotting techniques      b) Western Blotting techniques  
c) Polymerase chain reaction      d) Agrose gel Electrophoresis
- 7) Virus free plants are developed from  
a) Organ culture      b) Meristem culture      c) Protoplast culture      d) Cell suspension culture
- 8) Solidifying agent used in plant tissue culture is  
a) Nicotinic acid      b) Cobaltous chloride      c) EDTA      d) Agar

**II. ANSWER ANY FOUR QUESTIONS.****4X2=8**

- 9) Define Pollinium. Give an example.
- 10) What is called polyembryony?
- 11) Define synteny.
- 12) What is called chromosomal aberration?
- 13) What do you know about the word PBR322?
- 14) What is called totipotency?

**III. ANSWER ANY THREE QUESTIONS. QUESTION NO.19 IS COMPULSORY.****3X3=9**

- 15) Write notes on endothecium.
- 16) What are the Importance of crossing over?
- 17) Write the microorganisms used for the production of single cell protein.
- 18) What is called cryopreservation?
- 19) Distinguish habitat and niche.

**IV. ANSWER ALL THE QUESTIONS:****2X5=10**

- 20) a) Draw and label the T.S. of mature anther.  
(OR)  
b) Describe dominant epistasis with an example.
- 21) a) What is called fermentation? What are the process involved in fermentation?  
(OR)  
b) Write short notes on the application of plant tissue culture.

**BIO ZOOLOGY (35 Marks)****I. CHOOSE THE CORRECT ANSWER.****8 X 1=8**

1. Strobilation occurs in
  - a) Sponge
  - b) Aurelia
  - c) Noctiluca
  - d) Amoeba
2. Which of the following is incorrect regarding zw - zz type of sex determination?
  - a) It occurs in birds and some reptiles.
  - b) Females are homogametic and males are heterogametic
  - c) Males produce are type of gamete
  - d) It occurs in gypsy moth
3. The total number of nitrogenous bases in human genome is estimated to be about
  - a) 3.5 million
  - b) 35000
  - c) 35million
  - d) 3.1 billion
4. AIDS virus has
  - a) single stranded RNA
  - b) Double stranded RNA Single stranded DNA
  - d) Double stranded DNA
5. One gene one enzyme hypothesis was proposed by
  - a) George Beadle
  - b) Edward Tatum
  - c) saltum
  - d) A and B
6. In Geological time scale in which period origin of algae is appeared
  - a) Devonian
  - b) silurian
  - c) ordovician
  - d) cambrian
7. Among the following drugs which one is not a stimulants
  - a) Amphetamines
  - b) cocaine
  - c) opium
  - d) nicotine.
8. Cyclosporin - A is an immunosuppressive drug produced from
  - a) *Aspergillus niger*
  - b) *Monascus purpureus*
  - c) *Penicillium notatum*
  - d) *Trichoderma polysporum*

**II. ANSWER ANY FOUR QUESTIONS.****4X2=8**

- 9) How is juvenile phase different from reproductive phase?
- 10) What is inhibin? State its functions.
- 11) What is Mayer-Rokitansky syndrome?
- 12) What are interferons? Mention its functions.
- 13) What is operon? How many operon groups are present in E.coli?
- 14) Which is referred to as industrial alcohol? Why?

**III. ANSWER ANY THREE QUESTIONS. QUESTION NO.19 IS COMPULSORY.****3X3=9**

- 15) How is polyspermy avoided in humans?
- 16) Write notes on "Aminocentesis".
- 16) Write three Application of karyotyping.
- 17) Why are sex linked recessive characters more common in the male human beings?
- 18) Mention the main objections to Darwinism.
- 19) State any three goals of the human genome project.

**IV. ANSWER ALL THE QUESTIONS:****2X5=10**

- 20) a) Explain the different types of syngamy with examples.  
(OR)
- b) List out the salient features of genetic code.
- 21) a) Write any two Bacterial disease in Human beings and explain the causative agent, site of infection, mode of transmission and symptoms.  
(OR)
- b) Explain the structure of immunoglobulin with suitable diagram.